SunStar®

User's Manual

KM-380ßL

1 needle, unison feed,
lockstitch cylinder bed type
sewing machine
(with vertical large hook)

KM- 390ßL

1 needle, unison feed,
lockstitch cylinder bed type
sewing machine
(with horizontal large hook)

KM-390BL

KM-380BL

1) For proper use of the machine, thoroughly read this manual before use.

2) Keep this manual in a safe place for future reference in case the machine breaks down.

SunStar® SUNSTAR MACHINERY CO., LTD.

MME-050629

1. **Thank you for purchasing our product. Based on the rich expertise and experience accumulated in industrial sewing machine production, SUNSTAR will manufacture industrial sewing machines, which deliver more diverse functions, high performance, powerful operation, enhanced durability, and more sophisticated design to meet a number of user's needs.**
2. **Please read this user's manual thoroughly before using the machine. Make sure to properly use the machine to enjoy its full performance.**
3. **The specifications of the machine are subject to change, aimed to enhance product performance, without prior notice.**
4. **This product is designed, manufactured, and sold as an industrial sewing machine. It should not be used for other than industrial purpose.**

SUNSTAR MACHINERY CO., LTD.

Table of Contents

Safety rules for machines 4

1. Specification 8

1) Sewing machine 8

2. Installation 8

1) Confirming oil supply 9

2) Lubricating each friction part 9

3. Machine Adjustment 11

1) Inserting needle 11

2) Inserting lower thread to bobbin 11

3) Adjustment of inserting lower thread 11

4) Inserting lower thread 12

5) Routing upper thread 13

6) Adjusting upper thread tension 13

7) Adjusting presser foot pressure 14

8) Adjusting forward and reverse stitch length 14

9) Adjusting sub presser foot and upper feed presser foot 15

10) Adjusting timing of sub presser foot, upper feed presser foot and needle 16

11) Adjusting feed dog height 16

12) Timing of needle plate, needle and feed dog 17

13) Adjusting timing of needle and hook 18

14) Adjusting clearance between hook and opener 19

15) Assembling feed cam 19

16) Adjusting safety assembly 19

4. Causes of Trouble and Troubleshooting 20

1) Sewing machine troubleshooting 20

5. Table drawing 22

1) KM-380BL 22

2) KM-380BLB 23

3) KM-390BL 24

Safety Rules for Machines

Safety labels in the manual are categorized into danger, warning and caution.
Failure to follow the safety rules may result in physical injuries or mechanical damages.
The safety labels and symbols are defined as follows.

[The meaning of the safety labels]

⚠ Danger
Instructions here shall be observed strictly. Otherwise, the user will be killed or suffer severe physical injuries.

⚠ Warning
Instructions here must be observed, or the user could suffer fatal or severe physical injuries.

⚠ Caution
Instructions here should be observed, or the user could face physical injuries or mechanical damages.

[The meaning of symbols]

	This symbol means a must-not.
	This symbol means a must for safety.
	This symbol means that an electric shock may be caused if the instruction is not followed properly.

1-1) Machine mobilization Danger	Only personnel with a full understanding of the safety rules should move the machine. The following directions must be observed when transferring the machine. ⓐ At least 2 persons should move the machine together. ⓑ In case the machine should be transported, wipe the oil covered on the machine to prevent accidents.
1-2) Machine Installation Caution	Because physical damages such as the machine's dysfunction and breakdown are likely to occur depending on the environment in which the machine is installed, the following preconditions must be met. ⓐ Please unpack the machine package in order from the upper side. Be particularly careful of the nails in the wooden box. ⓑ Because machines are apt to be contaminated and corroded by dust and moisture, install a climate controller and clean the machines regularly. ⓒ Keep the machine out of direct rays of the sun. ⓓ Keep both sides and the backside of the machines at least 50cm from the wall to secure enough space for repair. ⓔ Don't run the machine near places with any danger of explosion. Don't run the machine near places with any danger of explosion, including places where sprays like aerosol are used in large quantities or oxygen are dealt with, unless the exact actions concerning the operation are guaranteed to avoid the explosion. ⓕ Illuminators do not come equipped with the machine due to the machine's characteristics. So, users should install the lighting apparatus around the working area. [Note] The details about the installment of the machine are described in "2. Installation".
1-3) Troubleshooting Danger	If in need of troubleshooting, call a trained A/S engineer who has been educated by Sunstar. ⓐ Be sure to turn the power off before cleaning and repair. And wait for about 4 minutes until the machine discharges completely. ⓑ Part of or the entire machine should not be modified without any consultation with our company. Such modification could threaten the safety in operating the machine. ⓒ In case of repair, change the damaged part into the genuine part of our company ⓓ After repair, cover the machine with the safety cover that was removed for repair.

1-4) Machine Operation

Warning

The KM-380BL/390BL Series are manufactured for industrial use to sew textiles and other similar material. When running the machine, users should observe the following things.

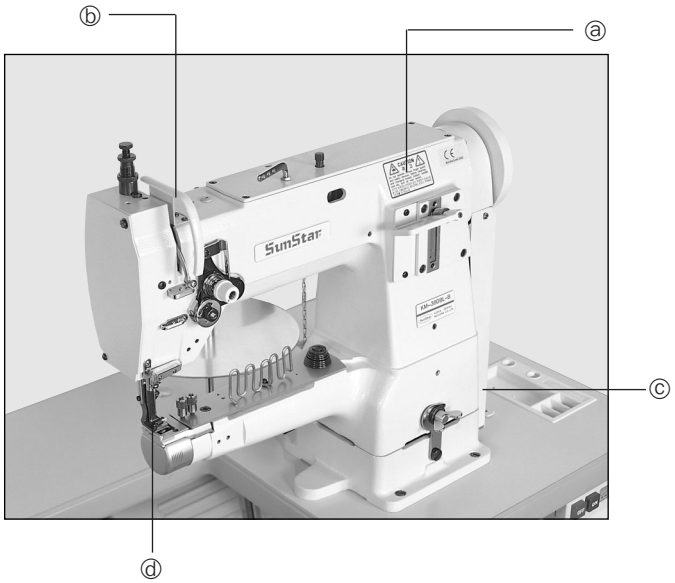
ⓐ Read the manual before operation of the machine to fully understand the details about its operation.
ⓑ Do not forget to wear garment suitable for safe work.
ⓒ Keep your hands or any part of the body away from the running part of the machine like the needle, hook, thread take-up spring, pulley, etc.
ⓓ Do not remove any type of cover during operation for safety reasons.
ⓔ Be sure to connect the earthed line.
ⓕ Before opening an electric box such as a control box, be sure to shut off the power supply and make sure that the power switch is set to "OFF".
ⓖ Be sure to stop the machine when threading the needle or before checking after sewing.
ⓗ Do not switch on the power supply with the foot on the pedal.
ⓘ Do not run the machine when the cooling fan is clogged. Be sure to clean the air filter in the control box once a week.
ⓙ If possible, keep the machine away from strong electromagnetic fields like areas around a high frequency welding machine.

Warning	Always start the machine with safety covers in place since fingers or hands could be injured or cut off by the belt. Turn off the power switch during check-ups or adjustments.

1-5) Safety Device

Warning

ⓐ Safety Label: Cautions that need to be heeded to during operation.
ⓑ Thread take-up spring cover: A device to prevent the human body from touching the thread take-up spring.
ⓒ Belt cover: A device to prevent hands, feet and clothing from getting jammed by the belt.
ⓓ Finger guard: A device to prevent fingers from contacting the needle.



1-6) Position of Caution Mark

CAUTION
경 고

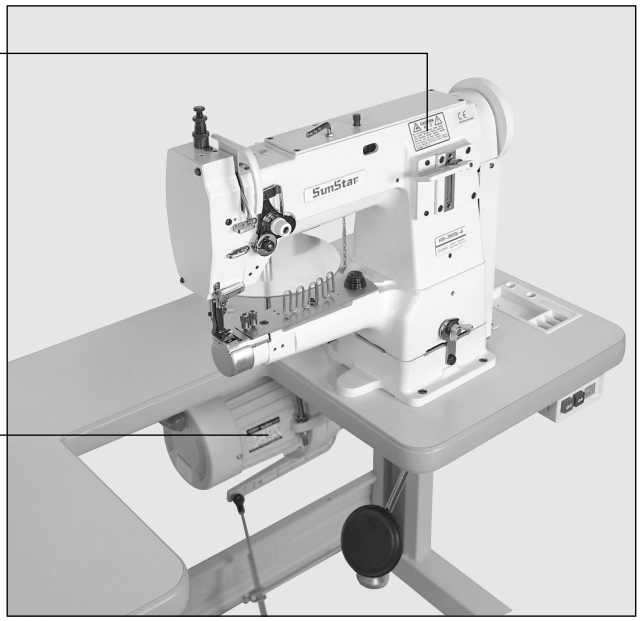
Do not operate without finger guard and safety devices. Before threading, changing bobbin and needle, cleaning etc. switch off main switch.
손가락 보호대와 안전장치 없이 작동하지 마십시오.
실, 보빈, 바늘교환시나 청소전에는 반드시 주전원의 스위치를 꺼 주십시오.

CAUTION
경 고

Hazardous voltage will cause injury.
Be sure to wait at least 360 seconds before opening this cover after turn off main switch and unplug a power cord.
고압 전류에 의해 감전될 수 있으므로 커버를 열 때는 전원을 내리고 전원 플러그를 뽑고 나서 360초간 기다린 후 여십시오.

"Caution" is attached to the machine for safety.
In case of starting to run the machine, read the directions of "Cautions" carefully.

[Position of Caution Mark]



1-7) Content of "Caution"

Caution

CAUTION
경 고

Do not operate without finger guard and safety devices. Before threading, changing bobbin and needle, cleaning etc. switch off main switch.
손가락 보호대와 안전장치 없이 작동하지 마십시오.
실, 보빈, 바늘교환시나 청소전에는 반드시 주전원의 스위치를 꺼 주십시오.

CAUTION
경 고

Hazardous voltage will cause injury.
Be sure to wait at least 360 seconds before opening this cover after turn off main switch and unplug a power cord.
고압 전류에 의해 감전될 수 있으므로 커버를 열 때는 전원을 내리고 전원 플러그를 뽑고 나서 360초간 기다린 후 여십시오.

1 Specification

1) Sewing machine

Specification \ Model	KM-380BL	KM-390BL
Sewing speed	Max. 2,200 spm	
Stitch length	Max. 6mm	
Needle	DP ×17 #18(#11~ #23)	DP ×17 #23(#11~ #23)
Hook	Vertical large hook	Horizontal large hook
Needle bar stroke	34.2㎜	
Gap in height between main and sub presser foot	2～5.5㎜	
Presser foot lift	By Hand 10mm/By Knee 15mm	
Cylinder diameter	ϕ50mm	ϕ77mm
Motor	250W 2P Clutch Motor	

2 Installation

Warning	
	▶Installation of the machine should be performed by a trained engineer.
	▶Any electrical wiring must be performed by a qualified technician or agent.
	▶The machine weighs over 32kg. At least 2 persons should carry out the installing work.
	▶Plug in after the installation is complete. If the operator mistakenly steps down on the pedal with the pug in, the machine will start automatically and can cause physical injuries.
	▶Connect the ground (earth) wire. An unstable connection may result in an electric shock or a malfunction.
	▶Place the belt cover on top of the machine.
	▶Use both hands when bending the machine backwards or returning it to the normal position. Using only one hand can lead to severe hand injuries due to the weight of the machine.

⚠ Caution

▶Do not plug in only before oil supply is finished.
If the operator mistakenly steps on the pedal with the plug in, the machine will start automatically and can cause severe injuries.

▶When handling lubricants, wear protective glasses or gloves to avoid contact with your eyes or skin. Inflammation may be caused otherwise. Never drink lubricants since they can cause vomiting or diarrhea. Keep out of the reach of children.

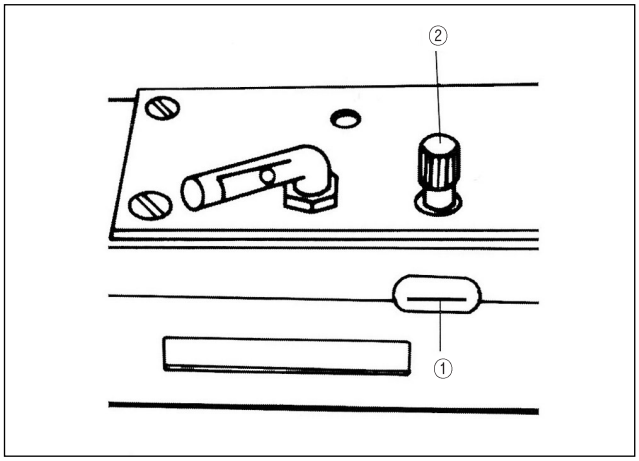
▶Operate the machine only after adding oil when the machine is being used for the first time or has been left unused for a long time.

1) Confirming oil supply

A. Confirming oil tank

KM-380BL/390BL

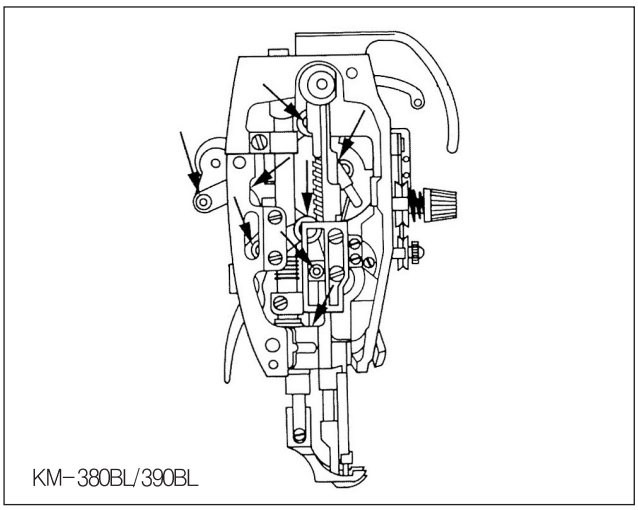
In case of oil tank installed in the upper part of arm, supply oil to the level of the marked line① after opening the cover ②. (Refer to Figure 1)



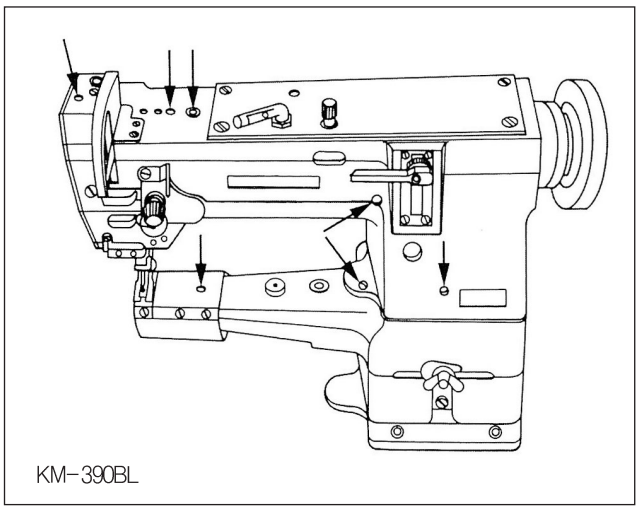
[Figure 1]

2) Lubricating each friction part

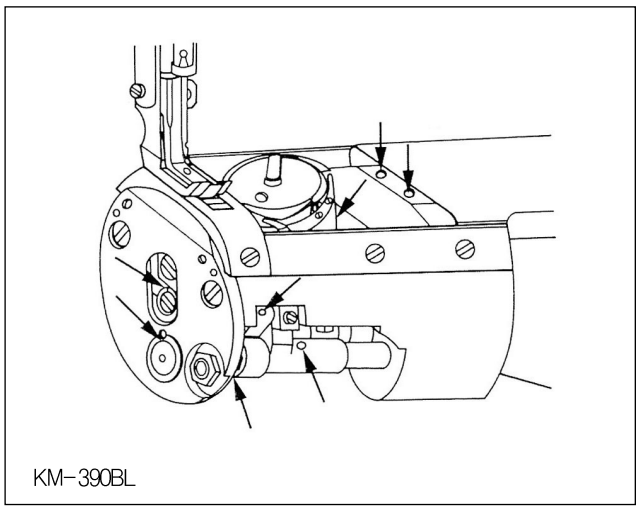
Be sure to supply oil into the oil holes marked red (arrow marks) and the oil holes in the friction parts before operating the machine.



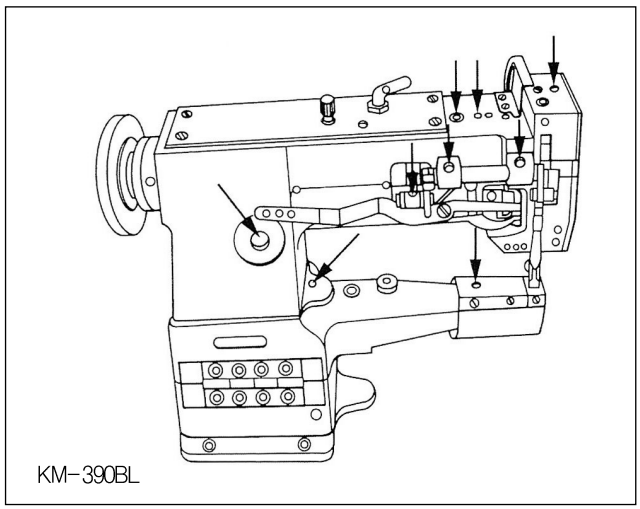
[Figure 2]



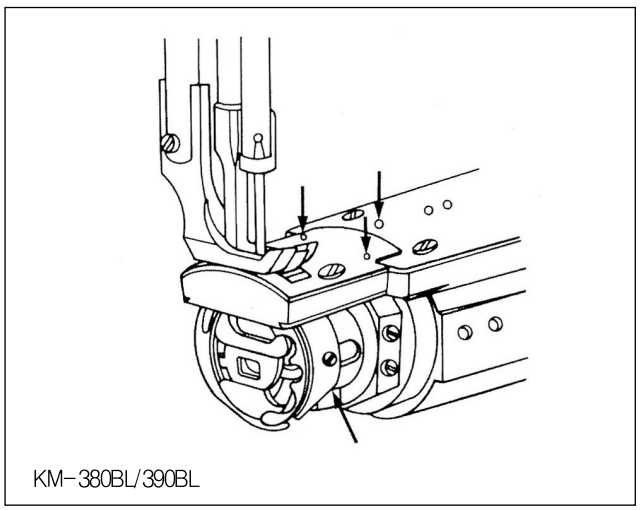
[Figure 3]



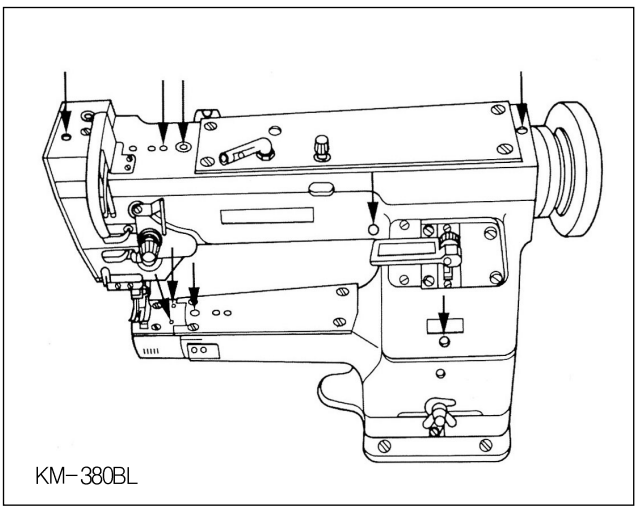
[Figure 4]



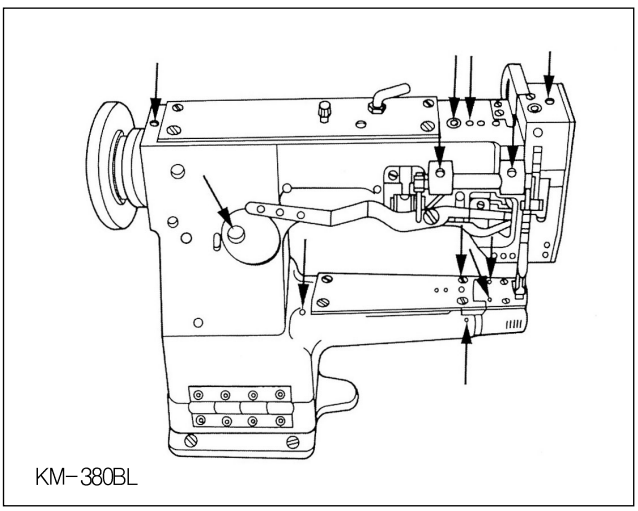
[Figure 5]



[Figure 6]



[Figure 7]



[Figure 8]

3 Machine Adjustment

⚠ Caution

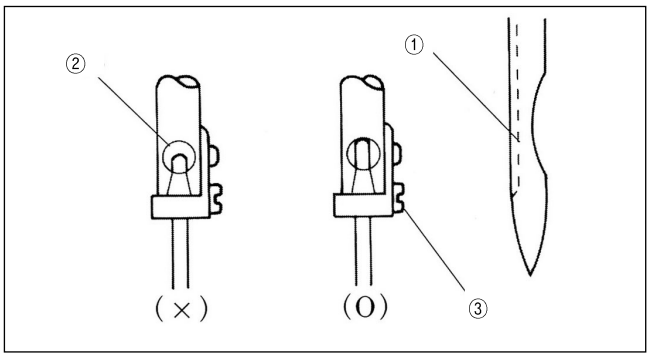
▶Always turn off the power when mounting a needle.
If the operator mistakenly steps on the pedal while the power is on, the machine will start automatically and can result in physical injuries.

▶When using clutch motor, be aware that the motor will continue to rotate for a while even after the power is switched off due to inertia.
Start to work on the sewing machine only after the motor has come to a complete stop.

1) Inserting needle

KM-380BL/390BL

As in Figure 9, move the needle upper end so that it directly touches the upper side of the stopper hole② when the groove ① of the needle is inserted facing left. Then, use the fixing screw③ to fix the position of the needle.



[Figure 9]

⚠ Caution

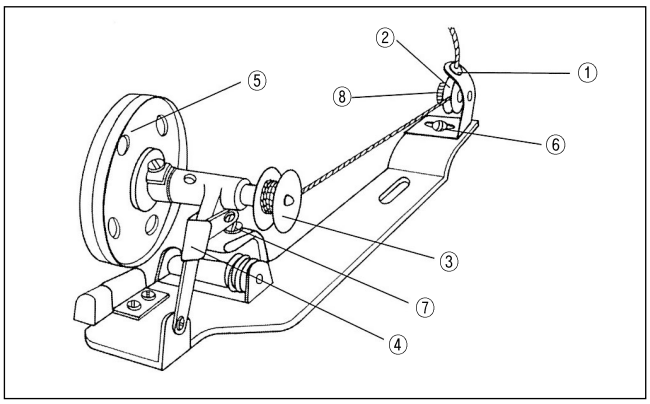
▶Turn off the power when adjusting the lower thread tension.
If the operator mistakenly steps down on the pedal while switched on, the machine will start automatically and can cause physical injuries.

▶When using the clutch motor, be aware that the motor will continue to rotate for a while even after the power is switched off due to inertia.
Start to work on the sewing machine only after the motor has come to a complete stop.

2) Inserting lower thread to bobbin

KM-380BL/390BL

a. Pass the thread through the hole① from back to front of the tension adjustment dish②.
b. Pull the thread to bobbin③ and wind it clockwise 5 or 6 times from the lower side.
c. Push the lever④ so that the pulley⑤ touches V-belt and operate the machine.
d. When the lower thread is winded thoroughly up to the bobbin, the pulley⑤ separates automatically from the V-belt. (Refer to Figure 10)



[Figure 10]

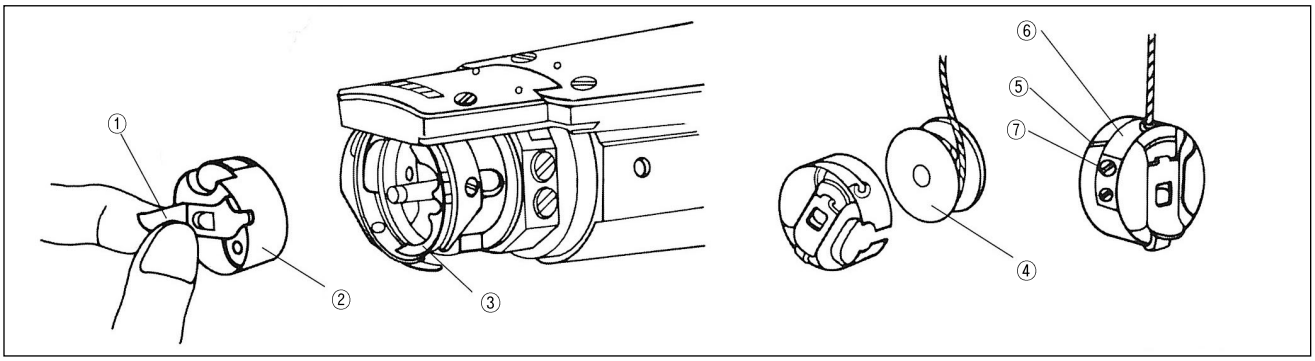
3) Adjustment of inserting lower thread

KM-380BL/390BL

a. In case that the lower thread winds up irregularly, loosen the screw⑥ and adjust it by moving from side to side and tighten the screw⑥ again.
b. The amount of winded lower thread increases when the adjustment screw⑦ turns clockwise and it decreases turns counter clockwise.
c. Turning the nut⑧ clockwise makes the lower thread tension winded to the bobbin stronger and counterclockwise makes it weaker.

4) Inserting lower thread

KM-380BL



[Figure 11]

a. Inserting and removing bobbin case (Refer to Figure 11)

- The bobbin case② is removed from the hook③ when you grab and pull the bobbin case handle①. (The bobbin④ is separated when you release the handle①.)
- In case of inserting the bobbin case②, grab the handle① and insert.

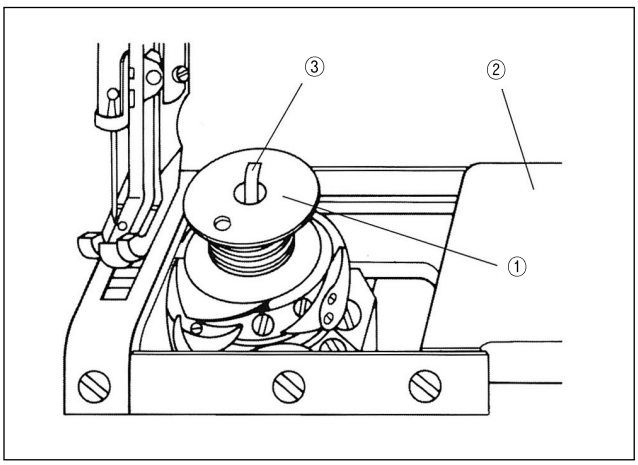
b. Inserting lower thread (Refer to Figure 11)

- Insert the bobbin④ to the bobbin case②. Then, insert the thread to the thread groove⑤ and place it under the tension adjustment plate spring⑥.

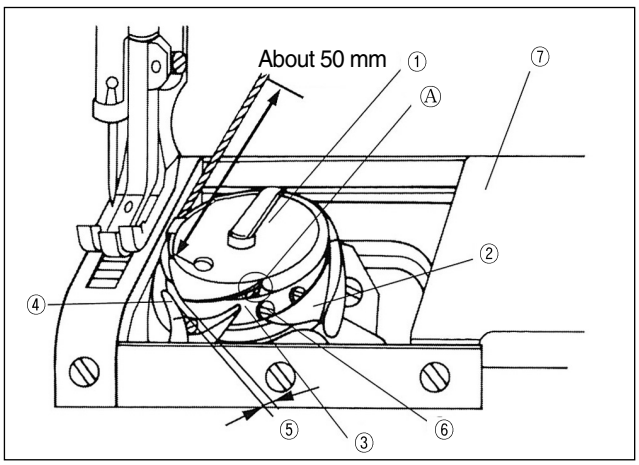
c. Adjusting lower thread tension (Refer to Figure 11)

- The lower thread tension becomes stronger by turning the tension adjustment screw⑦ clockwise, and it becomes weaker by turning the screw counter clockwise.
- Adjust the lower thread tension to a degree that the thread get loosened by its own weight when you fall the bobbin case② grabbing the end of the thread.

KM-390BL



[Figure 12]



[Figure 13]

a. Removing bobbin

- Place the needle in the highest position, and then like in Figure 12, open the sliding plate② and lift the bobbin holder③ to remove the bobbin①.

b. Inserting lower thread

- Insert the bobbin① winded up by thread into the bobbin case②. As in Figure 13, pull out the lower thread by passing the thread through the Ⓐ part of the thread path and under the tension spring plate③. Then, Pull the thread end through the gap⑤ between the hook② and the opener④. The adequate length of the pulled-out lower thread over the sliding plate⑦ is 50mm.

c. Adjusting lower thread tension

- Like in Figure 13, turning the tension adjustment screw⑥ clockwise makes the lower thread tension winded to the bobbin stronger and counterclockwise makes it weaker.

⚠ Caution

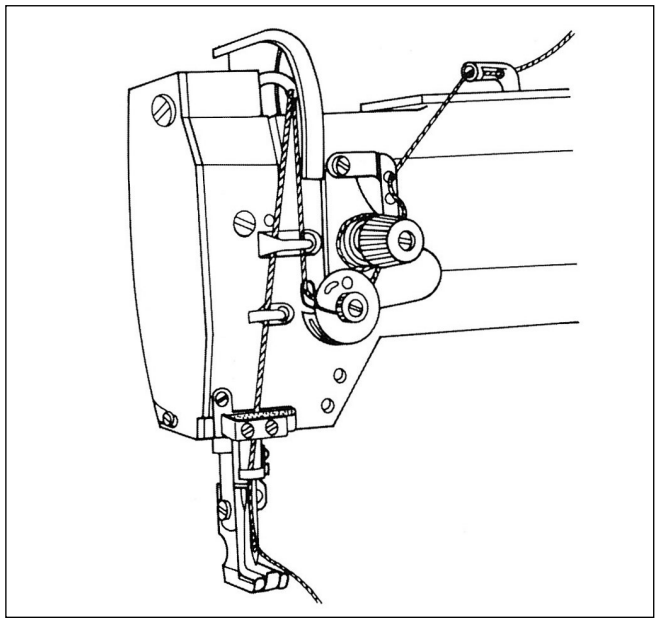
▶Turn off the power switch when routing the upper thread.
If the operator mistakenly presses down on the pedal while switched on, the machine will start automatically and can cause physical injuries.

▶When using the clutch motor, be aware that the motor will continue to rotate for a while even after the power is switched off due to inertia.
Start to work on the sewing machine only after the motor has come to a complete stop.

5) Routing upper thread

KM-380BL/390BL

Place the thread take-up lever to the highest position and hang the upper thread like in Figure 14.



[Figure 14]

6) Adjusting upper thread tension

KM-380BL/390BL

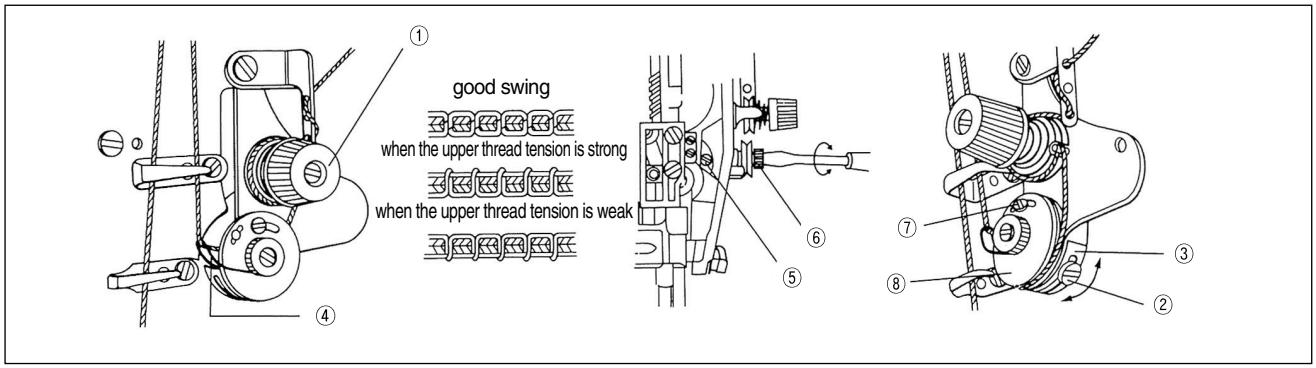
A. Adjusting the upper thread tension

- Like in Figure 15, turning the tension adjustment nut① of the thread tension control assembly clockwise makes the upper thread tension stronger and counterclockwise makes it weaker.

B. Adjusting the thread take up

a. Adjusting the thread take up stroke

- As in Figure 15, loosen the stopper fastening screw②, and turn the thread take up spring stopper③ counter clockwise to make the operational scope of the thread take up spring ④ bigger, and clockwise to make it smaller.



[Figure 15]

b. Adjusting the thread take up spring tension

- As in Figure 15, loosen the shaft screw⑤ of the thread adjustment assembly, and insert the driver into the groove of the thread tension control assembly shaft⑥. Turn clockwise to make the spring tension④ of the thread take up stronger and counter clockwise to make it weaker.

c. Adjusting operation timing of the thread take up spring

- As in Figure 15, loosen the stopper screw⑦, and turn the thread take up spring gauge⑧ clockwise to make the operation timing of the thread take up spring④ faster, and clockwise to make it slower.

⚠ Caution

▶After disassembling and adjusting a safety device, always place it back to the original position and check whether it functions as intended.

▶Use both hands when pushing the machine backward or returning it to the original position. Due to the weight of the machine, your hand can get stuck in the machine if you should slip.

▶When adjusting the machine with the switch on, be sure to pay extreme caution to the safety.

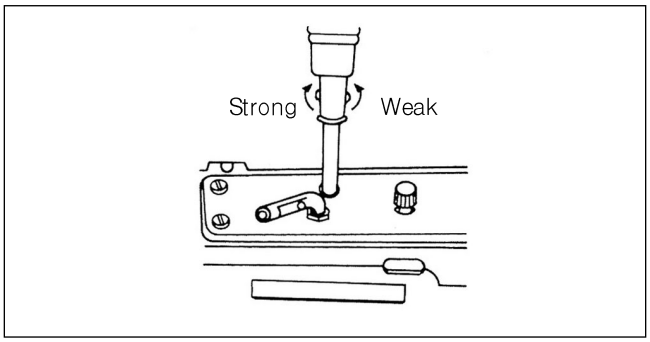
▶Only trained engineers must perform repair or inspection of the machine.

▶For electrical repair or inspection, always consult with qualified technicians or agent.

7) Adjusting presser foot pressure

KM-380BL/390BL

Turning the tension adjustment screw clockwise will make the presser foot pressure stronger, and counter clockwise to make it weaker. (Refer to Figure 16)



[Figure 16]

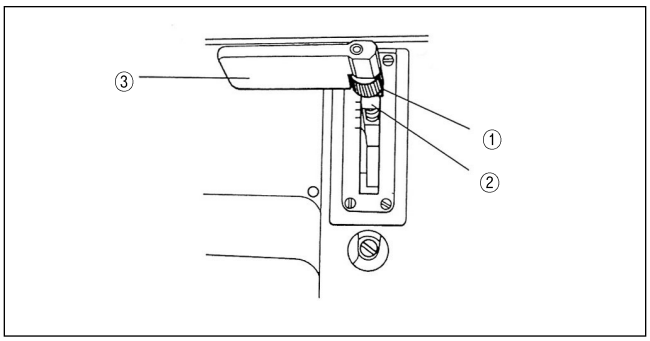
8) Adjusting forward and reverse stitch length

KM-380BL/390BL

a. The stitch length adjustment is finished when you coincide the indication line of the pipe② with your desired stitch length on the gauge using the nut①.

b. Turning the nut① clockwise makes the stitch length smaller and counter clockwise makes it bigger.

c. When the reverse stitch length is needed, pull downward the lever③. (Refer to Figure 17)



[Figure 17]

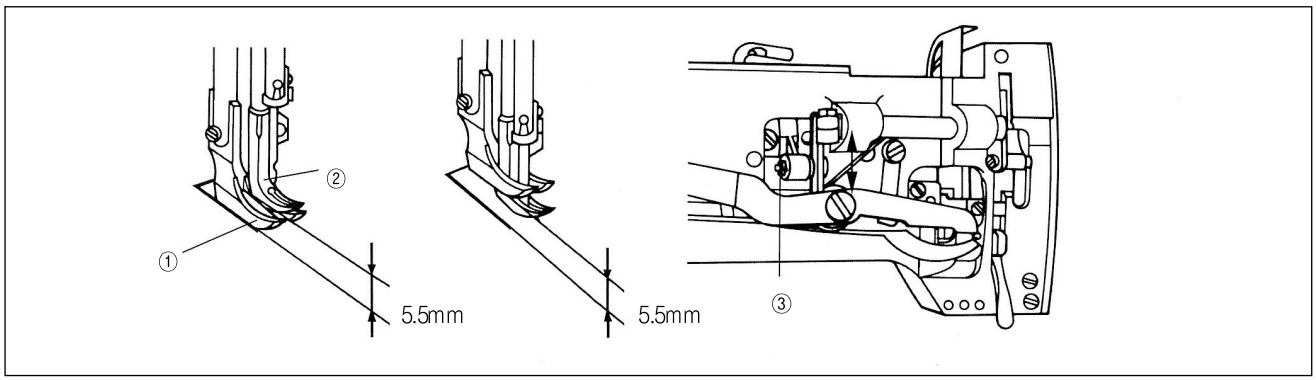
9) Adjusting sub presser foot and upper feed presser foot

KM-380BL/390BL

It is normal that both auxiliary presser feet ① and upper feed presser foot ② more up and down to the same height.

Take the following steps either to adjust the stroke of both to be the same or to make one of the two adjusted lower or higher, depending on sewing materials.

A. Adjusting the strokes of both to be the same.



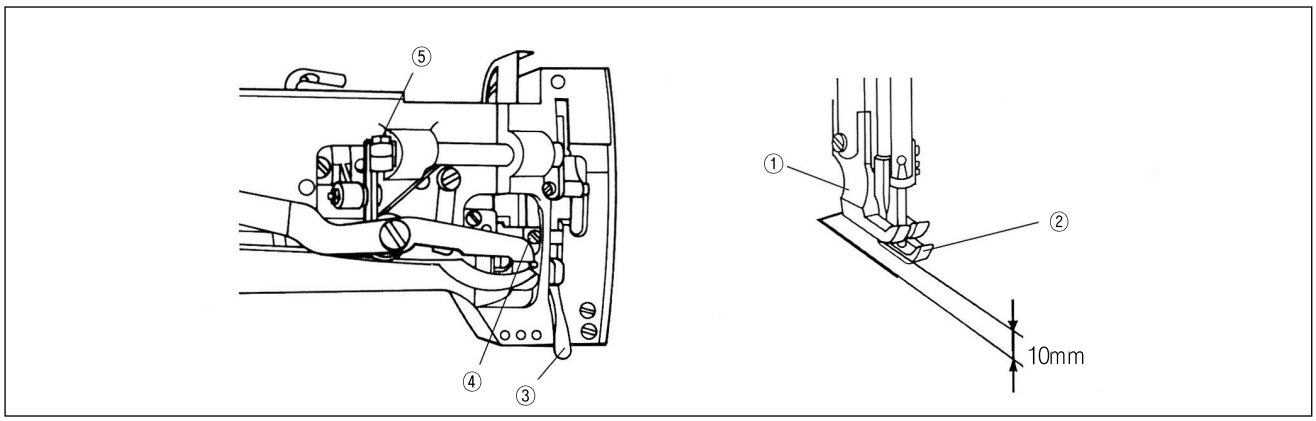
[Figure 18]

a. The vertical running range of the sub presser foot① and the upper feed presser foot② is from 2 to 5.5 mm.

b. Loosen the nut③ to adjust vertically in accordance with material's condition. (Refer to Figure 18)
(Placing the nut③ to upper position makes the movement bigger, and to lower position to make it smaller.)

c. When adjustment is complete, make sure the timing adjustment state explained in the article 10 of page 16.

B. In case of adjusting differently the movement of the sub presser foot and the upper feed presser foot



[Figure 19]

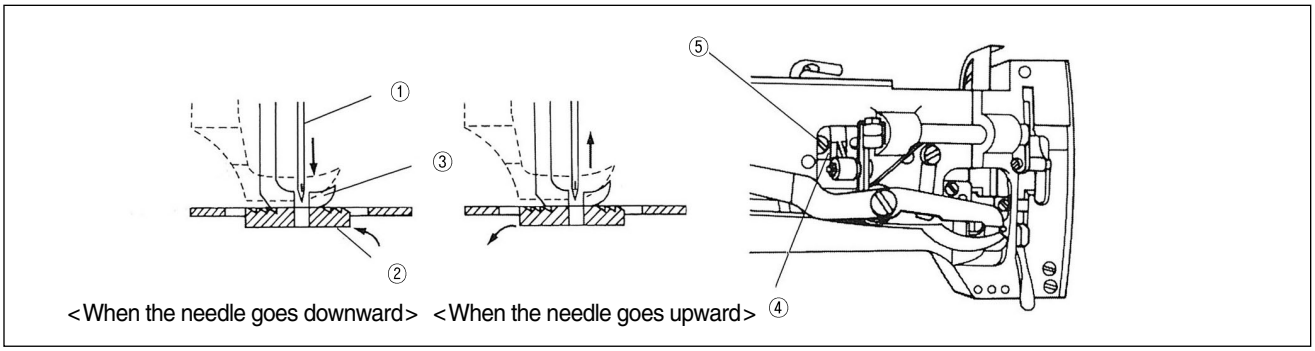
a. Adjusting the sub presser foot
- Loosen the presser bar pressure adjustment screw in Figure 16 on page 14 and the bracket fixing screw④ in Figure 19.
- Adjust vertically the bracket fixing screw④ so that the sub presser foot① goes up by 10mm from the upper side of the needle plate when the presser bar lifter③ is up.
- When the adjustment is finished, fix tightly the bracket fixing screw④ and adjust adequately the pressure adjustment screw.
- After adjusting the sub presser foot height, adjust the upper feed presser foot.

b. Adjusting the upper feed presser foot
- With the presser bar lifter③ is put, loosen the crank fastening screw⑤ and place the needle at the highest point.
- Adjust up and down the upper feed foot presser② height in accordance with material.
- When the adjustment is finished, fix tightly the clamp fixing screw⑤, and make sure the timing adjustment state explained in the article 10 of page 16.

10) Adjusting timing of sub presser foot, upper feed presser foot and needle

KM-380BL/390BL

When the needle① goes downward, the upper feed presser foot③ should already be contacted with the feed dog② before the end of needle① touches with the upper side of feed dog②. And when the needle① goes upward and the end of needle① removes from the upper side of feed dog②, the upper feed presser foot should be contacted with the feed dog②. In case that these timings are not coincided, loosen 2 presser foot vertical movement cam fixing screws⑤ and adjust from side to side the fixed position of vertical movement cam④. (Refer to Figure 20)



[Figure 20]

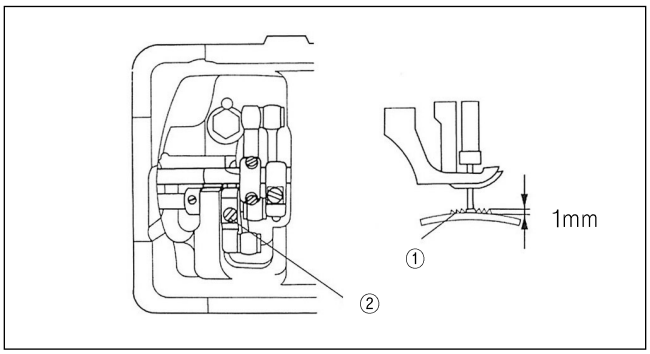
11) Adjusting feed dog height

KM-380BL

a. Bend the machine so that its lower side of bed revealed, and adjust the pulley to place the feed dog① at the highest point.

b. Loosen the screw② and adjust the height by moving vertically the feed dog①.
(The standard position of the maximum height of the feed dog is 1mm from the upper side of needle plate.)

c. When the height adjustment is complete, fasten tightly the screw②.

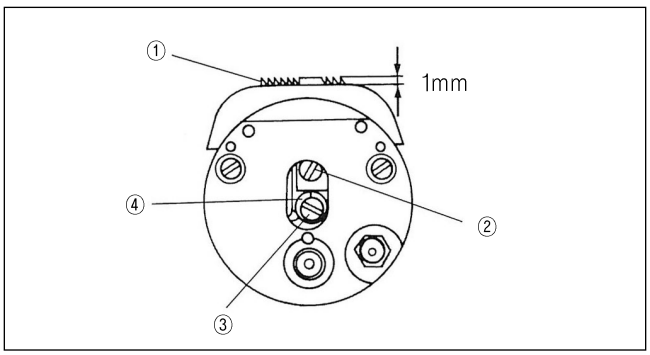


[Figure 21]

KM-390BL

a. Turn the pulley to place the feed dog① to the highest point. As in Figure 22, move up and down the feed dog with the feed dog fixing screw② and the eccentric collar fixing screw ③ are loosened. The standard position the feed dog is 1mm from the upper side of needle plate by moving the feed dog up and down.

b. When the adjustment is complete, fasten tightly the fixing screw③ with the eccentric collar④ is closely contacted with the lower part of feed dog.



[Figure 22]

12) Timing of needle plate, needle and feed dog

KM-380BL

① Locating the feed dog and the needle plate

a. Loosen the screw① in Figure 23. Adjust the location of the feed dog so that the gap between the feed dog and the needle plate before and after the movement is same. And adjust the feed dog movement to maximum.

b. After the adjustment, fasten the screw①.

② Location of the needle hole and the needle on the feed dog

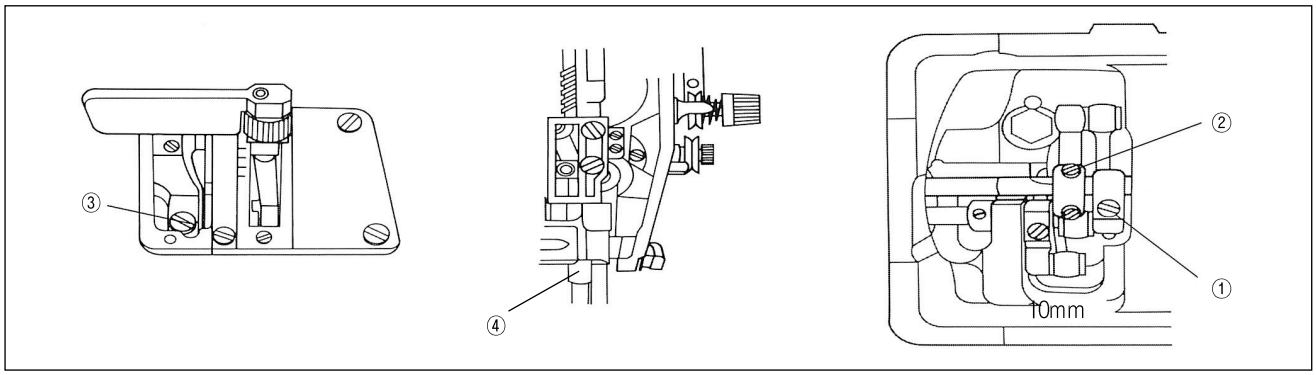
a. While descending the needle bar by turning slowly the pulley, check if the needle is descending toward the center of the needle hole on the feed dog.

b. If the needle does not descend toward the center of needle hole on the feed dog,

ⓐ Make sure if the screw② in Figure 23 is fastened tightly to the V-groove on the shaft.

ⓑ After loosening the screw③, hold the lower part of the needle bar frame④ to adjust it to the correct location.

ⓒ When the adjustment is finished, fasten tightly the screw③.



[Figure 23]

KM-390BL

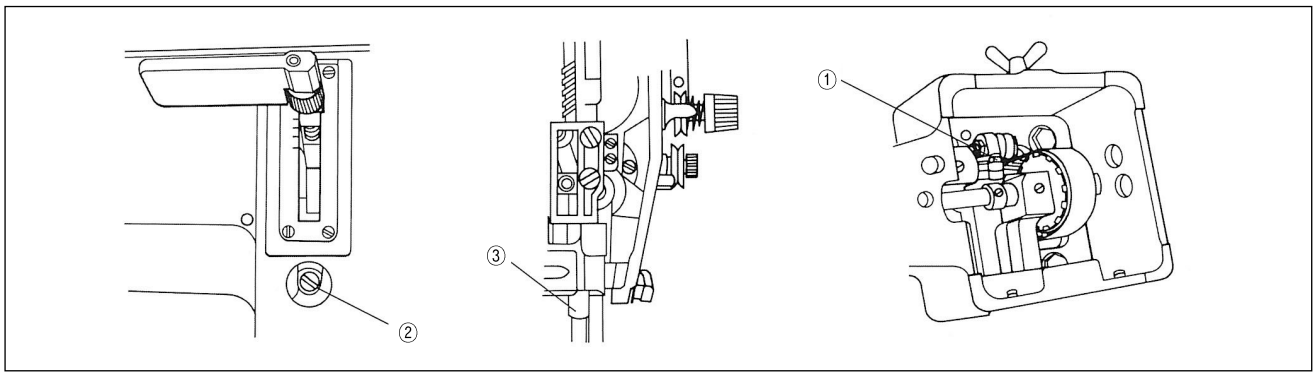
① Locating the feed dog and the needle plate

a. Loosen the screw① in Figure 24. Adjust the location of the feed dog so that the gap between the feed dog and the needle plate before and after the movement is same. And adjust the feed dog movement to maximum.

b. After the adjustment, fasten the screw①.

② Location of the needle hole and the needle on the feed dog

While descending the needle from its highest point by turning the pulley manually, check if the needle is descending toward the center of the needle hole on the feed dog. If the needle does not descend toward the center of needle hole on the feed dog, loosen the screw② and hold the lower part of the needle bar frame③ to adjust it to the correct location. When the adjustment is finished, fasten tightly the screw②.



[Figure 24]

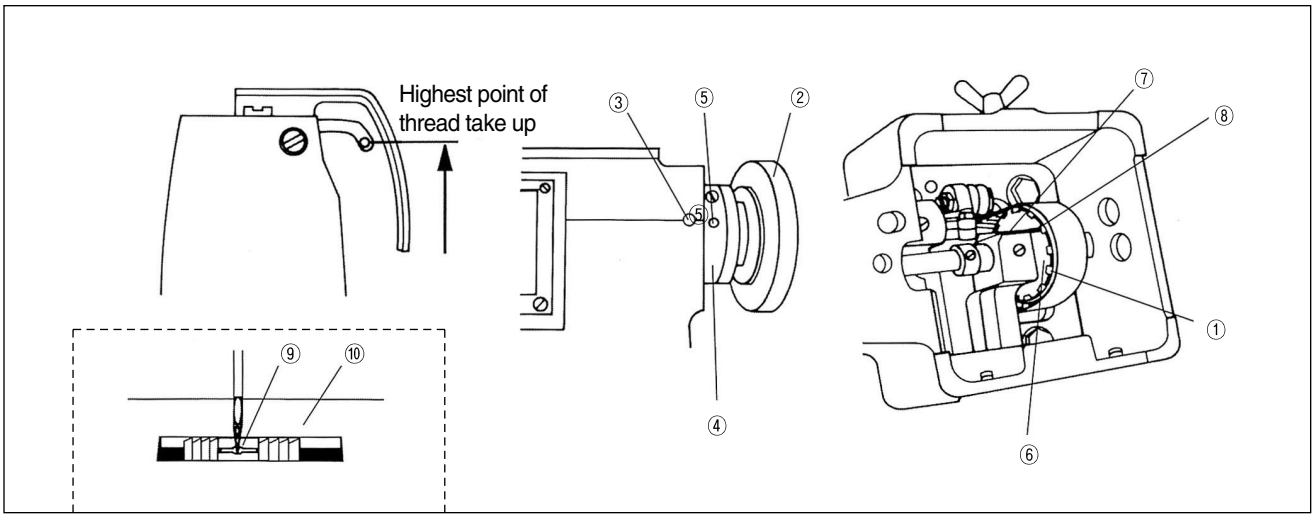
③ Adjusting the timing of the needle and the feed dog

a. Remove the needle and take the timing belt① off.

b. Place the thread take up to the highest point by turning the pulley② and coincide the arm marked point③ with the marked point⑤ on the pulley ring by turning the pulley ring④.

c. In this state, turn the timing(lower) pulley⑥ to adjust the red baseline⑦ on the bed to the red baseline⑧ of the timing(lower) pulley. Then, put the timing belt①.

d. Check after the adjustment if the end of needle descends and coincides with the upper side⑩ of needle plate when the upper side⑨ of feed dog is ascending and coincided with the upper side⑩ of needle plate.



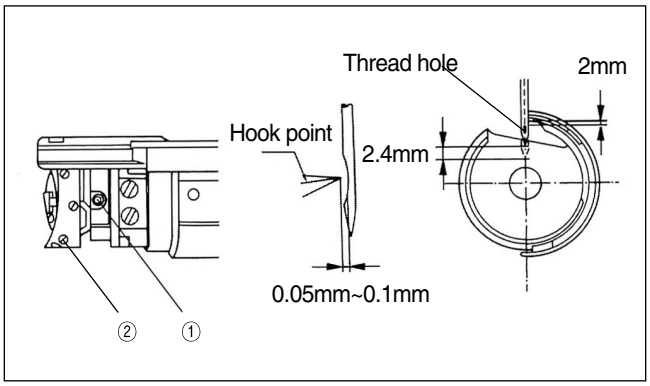
[Figure 25]

13) Adjusting timing of needle and hook

KM-380BL

a. Place the stitch to "0" and turn the pulley to place the needle bar to its lowest point. Later, like in Figure 26, ascend the needle by 2.4mm so that the gap between the upper side of thread hole of the needle and the hook point is adjusted to 2mm by loosening two fixing screws①.

After adjusting the needle and the hook point to be around 0.05~0.1mm by moving the hook② from side to side, fasten tightly two fixing screws①.



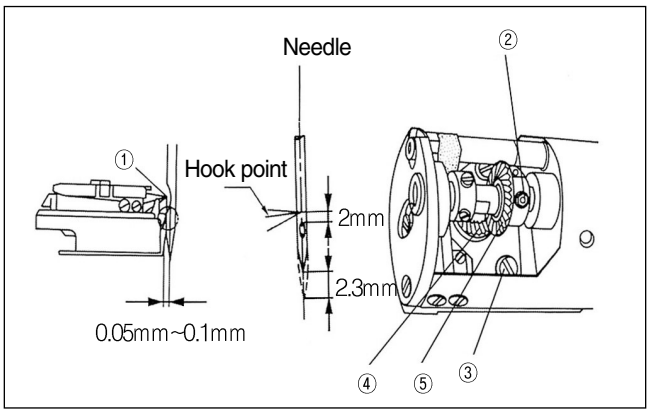
[Figure 26]

KM-390BL

a. Place the stitch to "0" and turn the pulley to place the needle bar to its lowest point. Later, like in Figure 27, ascend the needle by 2.3mm so that the gap between the upper side of thread hole of the needle and the hook point① is adjusted to 2mm by loosening three fixing screws②.

b. Loosen the two fixing screws③ and adjust it from side to side so that the clearance between the needle and the hook point① to be about 0.05~0.1mm.

c. After the adjustment, make the gearing between the hook shaft gear④ and the lower shaft gear⑤ to maintain proper clearance, and fasten tightly the three fixing screws②.



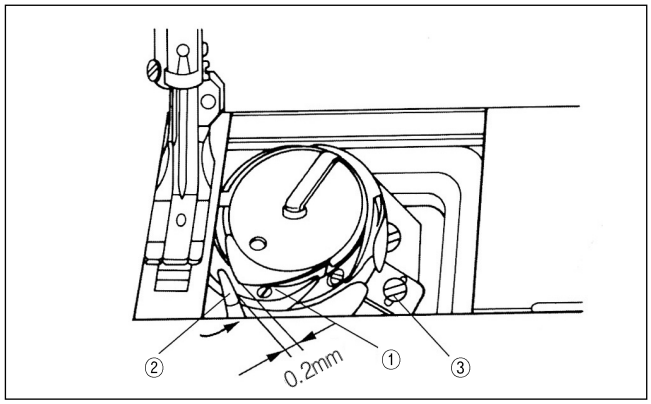
[Figure 27]

14) Adjusting clearance between hook and opener

KM-390BL

Loosen the fastening screw③ and adjust the opener② from side to side so that the clearance between the hook① and the opener② to be 0.2mm when the opener② is pulled to its maximum to the direction of arrow as shown in Figure 28.

When the adjustment is finished, fasten tightly the fastening screw③.



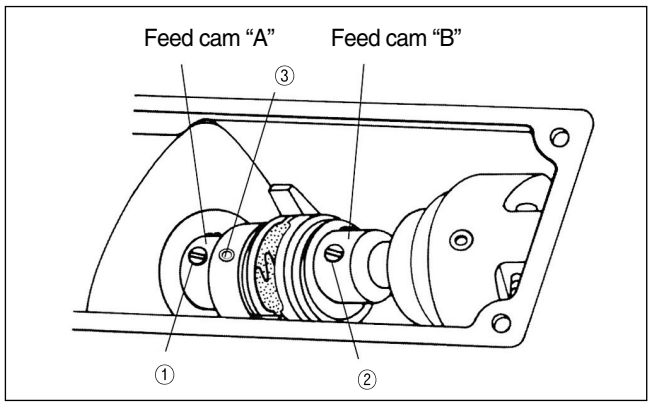
[Figure 28]

15) Assembling feed cam

KM-380BL

The standard is when the No. 1 fixing screw① of the feed cam "A", the center of No. 1 fixing screw② of the feed cam "B", and the center③ of the crank rod lubricating hole are being coincided in one straight line like in Figure 29 after fixing the needle to its lowest point.

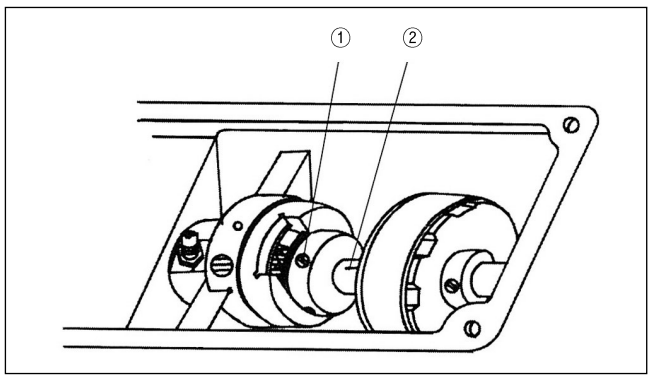
In this state, turn the pulley to raise needle and make the end of hook and needle cross. After that, feed dog and needle do not move when moves reverse lever up and down.



[Figure 29]

KM-390BL

The standard is when the No. 2 fixing screw① of the feed cam and the upper shaft marked line② are coincided as in Figure 30 after placing the thread take up to its highest point.



[Figure 30]

16) Adjusting safety assembly

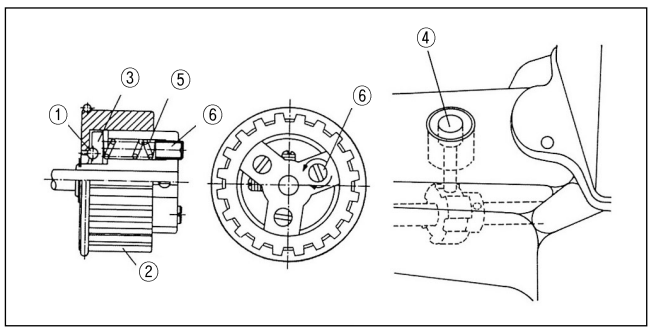
KM-390BL

If the load occurs by foreign substances on thread, needle, etc. during the sewing operation, the driving ball① of safety assembly in Figure 30 is removed to prevent damage of the hook and other major parts from the load, and the pulley② and the clutch plate③ on the safety assembly are removed. Then, the driving force of timing belt on the upper shaft does not delivered to the lower shaft, so only the pulley② of safety assembly rotates idly.

In case that the safety assembly starts operating during the work, turn power switch off and remove causing factors of load. Later, with safety button④ pressed, turn the pulley to place the driving ball① of safety assembly to its original position.

∗Adjust the intensity of the safety assembly spring⑤ by rotating three safety assembly adjustment screws⑥ from side to side in accordance with working conditions.

(Turning the screw to left makes the intensity stronger, and right to make it weaker. Make sure to give same pressure on the three screws.)



[Figure 31]

4 Causes of Trouble and Troubleshooting

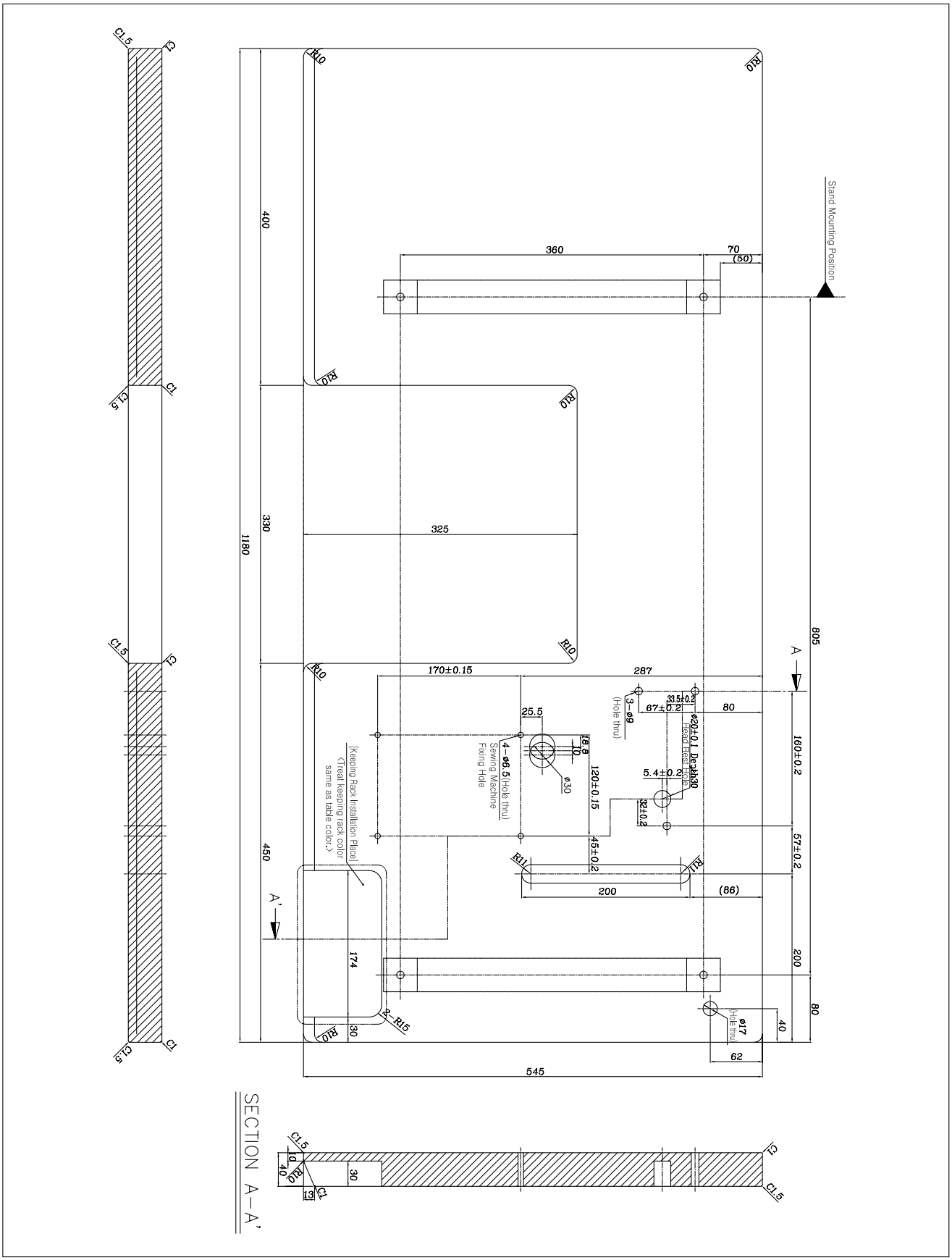
1) Sewing machine troubleshooting

No	Symptom	Checkpoints	Root cause	Corrective action
1	Needle breaks	Direction and height of needle	Needle is inserted into wrong position	Reinsert the needle correctly and place closely it to its highest position
		Needle	Needle is bent	Change the needle
		Timing of feed dog	Bad timing of feed dog	Adjust the timing of feed dog
		Ascending level of needle bar	Bad timing of needle and hook	Adjust the timing of needle and hook
		Height of needle	Bad timing of needle and hook	Adjust the timing of needle and hook
		Gap between needle and hook	Bad timing of needle and hook	Adjust the timing of needle and hook
2	Thread breaks	Threading method	Wrong threading	Thread the needle correctly
		Needle	Bent needle or broken needle tip	Change the needle
		Direction and height of needle	Needle inserted in the wrong position	Insert the needle correctly
		Upper thread tension	Too tight upper thread tension	Reduce tension of upper thread
		Lower thread tension	Too loose lower thread tension	Reduce tension of lower thread
		Working capacity of take-up lever spring	Loose upper thread	Adjust take-up lever spring
3	Poor thread adjustment	Thread tension	Upper and lower thread tensions are bad	Adjust the upper and lower thread tensions
		Thread take up spring tension	Thread take up spring tension is inadequate	Adjust the thread take up spring tension
		Gap between opener and hook	The gap between the opener and hook is inadequate	Adjust the gap between the opener and hook
4	Upper thread falls out when starting to sew or sewing is skipped	Direction and height of needle	Needle is inserted into wrong position	Reinsert the needle correctly and push in to its highest level
		Needle	Needle is bent	Change the needle
		Threading	Wrong direction	Insert the thread in the right way
		Gap between the needle and the hook	Bad timing of needle and hook	Adjust the timing of the needle and the hook
		Remaining upper thread length after trimming	The length of the remaining upper thread is too short	Increase the adjustment volume of the upper thread on the control box
		Lower thread holder	After trimming, lower thread holder does not hold the lower thread	Adjust the location and tension of the lower thread holder
		Check the up-stop position of the needle	Due to problems in the up-stop position of the needle, the thread take up lever pulls the upper thread out of the needle when the sewing starts	Readjust the needle's up-stop film position
5	Trimming miss	The gap between the movable knife and the hook	The height and distance between the movable knife and the hook do not match	Readjust the movable knife setting position
		Check the tension of fixed knife	Tension and contact of movable and fixed knives are bad	Correct the tension adjustment and surface contact of movable and fixed knives

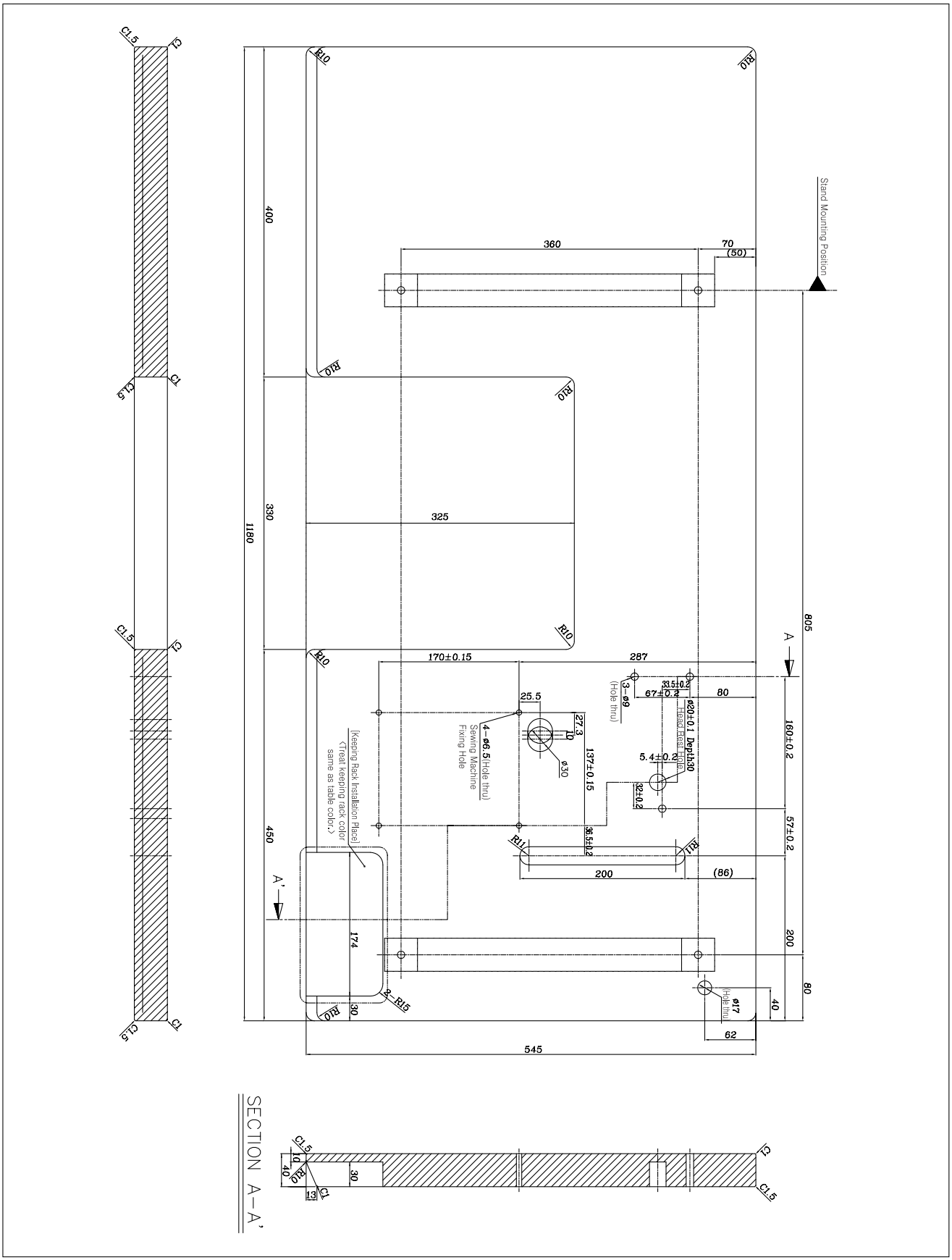
No	Symptom	Checkpoints	Root cause	Corrective action
5	Trimming miss	Direction of the needle	Needle is not inserted correctly	Insert the needle correctly
		Blade side of movable and fixed knives	Scratch and abrasion of movable and fixed knives	Replace movable knife or fixed knife
		Trimming cam timing	The timing of trimming cam is wrong	Adjust the timing of trimming cam
		Thread release stroke	Thread release stroke is too small	Readjust the thread release stroke
6	Too short thread length after trimming	Trimming timing	Wrong trimming timing	Adjust the trimming timing
		Opening of the thread tension adjusting plate	The opening on the thread tension control plate is too small	Adjust the thread release stroke
		Tension of auxiliary thread tension adjustment assembly	Too strong tension on the auxiliary thread tension control assembly	Adjust the tension of the auxiliary thread tension control assembly
		Thread take up stroke	Thread take up stroke is too large	Adjust the thread take up stroke
		Thread release adjustment volume on the control box	Volume is adjusted to too low	Increase the volume adjustment

5 Table Drawing

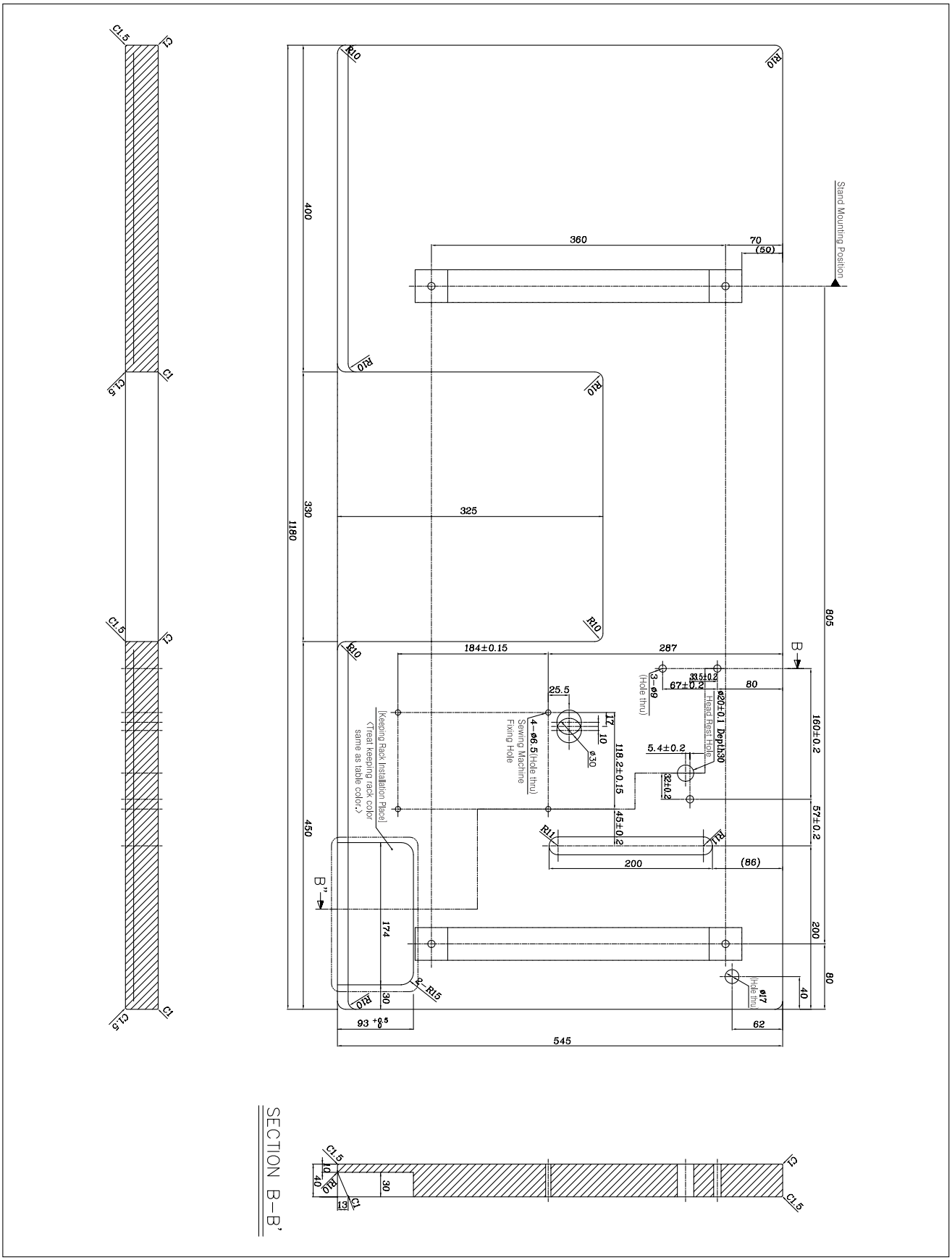
1) KM-380BL



2) KM-380BLB


C1.5
C1
R10
400
360
70
(50)
Stand Mounting Position
330
325
1180
805
A
A'
170±0.15
287
3-ø9
(Hole thru)
33.5±0.2
67±0.2
80
25.5
4-ø6.5 (Hole thru)
Sewing Machine
Fixing Hole
27.3
10
ø30
137±0.15
ø20±0.1 Depth30
Head Rest Hole
5.4±0.2
32±0.2
160±0.2
57±0.2
R1
36.5±0.2
200
(86)
450
[Keeping Rack Installation Place]
<Treat keeping rack color
same as table color.>
174
30
8-R15
ø17
(Hole thru)
40
62
545
SECTION A-A'
13

3) KM-390BL


C1.5
C1
R10
400
360
70
(50)
Stand Mounting Position
330
325
1180
184±0.15
287
805
B
25.5
67±0.2
80
3-ø9
(Hole thru)
ø20±0.1 Depth30
Head Rest Hole
4-ø6.5(Hole thru)
Sewing Machine
Fixing Hole
ø30
12
10
118.2±0.15
5.4±0.2
32±0.2
160±0.2
57±0.2
45±0.2
R12
R1
200
(86)
450
B'
174
30
2-R15
93 +0.5 0
545
62
ø17
(Hole thru)
40
80
200
[Keeping Rack Installation Place]
<Treat keeping rack color
same as table color.>
SECTION B-B'
13